

ELECTROCHEMICAL METHOD FOR PRODUCING FERRATE (VI) COMPOUNDS

ABSTRACT OF THE DISCLOSURE

A method for the electrochemical production of ferrate salts in an aqueous electrolyte solution comprising one or more hydroxide components. Dramatically increased yields of ferrate salts are obtained from using a mixture of sodium hydroxide and potassium hydroxide. Preferably, both sodium hydroxide and potassium hydroxide are present in concentrations greater than 5 molar, most preferably at least 10 molar, *i.e.*, 10 M NaOH and 10 M KOH. The anode is preferably a sacrificial anode made out of an iron-containing material to supply the iron necessary for the ferrate production reaction. The aqueous hydroxide solution, even a mixed potassium hydroxide (KOH) and sodium hydroxide (NaOH) solution, may be recycled and reused in the electrochemical cell, preferably after the extraction of the ferrate salt